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Not on the marble altar's brink  
Only, descends devotion's tear,  
Simplicity high thoughts may think;  
To God the simple mind is dear.

Such *is* the pow'r of secret spite,  
That had there been apply'd  
To *THEE* the same envenom'd bite,  
The *Serpent* must have died.

A.P.

TO .....

SUCH *was* the pow'r of hidden worth,  
Within a stranger land,  
A Viper, which the heat brought forth,  
Dropt, harmless, from the hand.

AN EPITAPH TO LET.

A MAN of sterling worth lies here;  
Worth—full three-thousand pounds a-year.  
A.P.

## DISCOVERIES AND IMPROVEMENTS IN ARTS, MANUFACTURES, AND AGRICULTURE.

*Specification of the patent granted to John Craigie, of Quebec, in the Province of Lower Canada, now residing in Craven-street, in the county of Middlesex; for certain means and improvements on Waggon, Carts, and other Wheel Carriages, whereby friction may be saved, labour facilitated, and a greater degree of safety obtained. Dated March 26, 1811.*

THE principle of the improvements proposed consists in making the load a live instead of a dead weight.

The object is to be obtained by the placing transversely braces of leather, cordage, iron, chain, or other flexible materials, which may be increased in number or in strength so as to support any load or pressure that can be required; by these braces the load is to be suspended, and will give temporary way on any impediment to the motion of the carriage, and thereby operate in the nature of a spring, while the centre of gravity, moving forwards, there will be a propelling power in the load.

We will first suppose a waggon or carriage on four wheels. On the two axes are to be placed, longitudinally, two side pieces, of sufficient

strength, the whole length of the carriage, kept separate as well by being fixed to the axle-trees as by the iron knees below, of sufficient strength: these side pieces may be six inches or more in height.

It may be necessary to have stays fixed to the upper part of the body of the carriage, in order to keep it steady, and prevent rocking in uneven roads.

From the side pieces are to be suspended the braces, which are to support a moveable frame. The moveable frame when suspended must be at some distance from the fixed sides, say two inches or more, and the braces must be at length to afford sufficient play, say eight inches at least more than the distance betwixt the side pieces. In two-wheel carriages the same principle is to be observed; the proportions may vary in both.

The body of the waggon placed and fixed on the moveable frame may be thereby so raised as to fill the whole space betwixt the wheels.

The advantages of springs to carriages are well known and ascertained. Springs, however, are expensive, liable to accidents, and cannot be used for very heavy loads.

It is believed that the improvements proposed will be found to possess the advantages without the inconvenience of springs. Peculiar advantage will be derived from them on two-wheel carriages. At present, whether on springs or without, in two-wheel carriages in ascending a hill the centre of gravity is thrown back, whereby part of the weight is taken off the horse's back at the very time when it would be more favourable to his draught to have it on. In coming down a hill, on the contrary, an additional load is thrown upon the horse when most injurious. By the improvements proposed, the centre of gravity will remain the same.

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*Account of an Experiment in fattening eight Bullocks tied up by the Head; four fed with Turnips and Hay, and the other four with Carrots and Hay; with a View of ascertaining the comparative value of Turnips and Carrots. The Turnips were of most excellent quality, and weighed in November, 25 tons, 7 cwt. 6 stone per acre, without their tops. The Carrots weighed, without their tops, 20 tons, 7 cwt. 1 st. 2 lbs. per acre. By Robt. Burrows, of Weasenham, Norfolk.*

Bought, 21st November, eight Galloway beasts; and as I had no opportunity of ascertaining their live weight, I invited two able judges to divide the lot as equal as possible, and on the 28th of the same month tied them up: gave the carrot-fed ones six pecks of carrots per day each, with nine pounds weight of hay; the turnip-fed bullocks had what turnips they liked to eat, with the same allowance of hay per day. At the time of tying them up, the point I had in view, was not to see which would fatten quickest, if so, I should have given the carrot beasts all they would have eaten; but the

favourite object I had in view, was to compare the quantity of land required under the two different crops, to produce the same quantity of animal food for market, and in an equal space of time. My observations respecting carrots given as food to other animals, led me to conclude that six pecks would be sufficient to fatten a beast of 48 Norfolk stones: the result will shew I was not much aside in my estimate.

The 7th of December, observed the carrot-fed beasts did not eat all the hay that was allowed them; as such, stopped their allowance, and gave them for the next four days only what was taken up from them.

December 11th, found seven pounds of hay would be as much per head as these last-mentioned bullocks would eat: the turnip-fed ones quickly ate their allowance of nine pounds each.

January 9th, found it necessary to give the carrot bullocks one peck of carrots more per day each, as it appeared, upon nice observation, that the turnip beasts had taken the lead.

January 19th, nothing remarkable; both lots appear to be doing as well as can be expected; the weather very severe, and consequently affects stock both within and without doors. The carrot-fed bullocks now appear to have as many carrots allowed them as they can eat.

February 1st. There is now a visible advantage in favour of the carrots. I had this day the gentlemen who divided the lots come to view; they expressed great satisfaction at the progress the whole eight had made; and were decided in their opinion, that the carrot-fed beasts had now taken greatly the lead.

Nothing afterwards occurred worthy notice respecting either lots, until the 21st of March, the time